

TEAM SELASSIE

PROJECT TITLE: DIABETIC RISK PREDICTION USING RANDOM FOREST AND LOGISTIC REGRESSION

INTRODUCTION:

Diabetes is a chronic health condition characterized by elevated blood sugar levels, resulting from the body's inability to produce enough insulin or effectively use the insulin it produces. There are primarily two main types of diabetes: Type 1, which is an autoimmune condition where the body attacks and destroys its insulin-producing cells, and Type 2, which is often linked to lifestyle factors such as diet and exercise.

PROBLEM:

Diabetes has reached epidemic proportions globally. According to the World Health Organization (WHO), the number of people with diabetes has risen from 108 million in 1980 to over 422 million in 2014. This number is expected to continue rising, making it one of the most pressing public health challenges of the 21st century. Diabetes significantly increases the risk of developing a wide range of serious health complications, including heart disease, stroke, kidney failure, vision impairment, and nerve damage. In severe cases, it can lead to amputations and premature death.

EXISTING SOLUTION:

Majority were based on Indian dataset, different methods were used.

PROPOSED METHOD:

We shall first attempt to create a suitable dataset from the local population in Nigeria, with a substantial sample size after which a machine learning model would be trained on the dataset to be able to predict the class of an unlabeled instance as being either Diabetic or Non-diabetic based on the input attributes' values, and therefore predicting the risk of developing diabetes. Proposed steps of this methodology would include data preprocessing, feature ranking, classification models training and performance evaluation.

PROPOSED SPLIT:

Currently we are two in our team, and there is no concrete split for now.

PROPOSED TIMELINE:

NIL

CONCLUSION:

The "Diabetic Risk Prediction" project is important due to the growing global burden of diabetes, its associated health complications, economic costs, and the potential to prevent or delay its onset through early identification and intervention. Developing effective risk prediction models in this area has the potential to save lives, improve quality of life, and reduce the strain on healthcare systems.